

**Abstract**

Real time biofilm monitoring systems are provided. Said systems comprise single or multiple fiber-optic probes detecting wavelength-specific fluorescence from biomarkers of fouling organisms; a compact optoelectronic interface and data acquisition system interfaced with said probes, wherein said probe or probes are bifurcated and contain at least one excitation and at least one emission filter permitting the simultaneous resolution of multiple biomarkers.

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